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### EDIBLE FRUITS OF SOLANUM IN SOUTH AMERICAN HISTORIC AND GEOGRAPHIC REFERENCES<sup>1</sup>

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ONE of the imperfectly understood aspects of economic botany in South America seems to be the use of the edible fruits of sundry species of *Solanum*. Not only is the extent to which long-known species are employed a question; but how many species, some perhaps not yet described, are involved remains for intensive agronomic and taxonomic research to clarify. The history of domestication and geographic dispersal of several of the *Solanum*-concepts herein considered remains, in some aspects, uncertain. It is hoped that a thorough consideration of historic and geographic reports of these plants may add to our growing understanding of them.

***Solanum quitoense* Lamarck** *Illustr.* 2 (1797) 16.

VERNACULAR NAMES:

*Lulo* in western Colombia.

<sup>1</sup>This article is part of a work on the history of cultivated plants in equinoctial America which I have been preparing with the help of the John Simon Guggenheim Memorial Foundation and OAS Fellowship Program. The research has been done mainly in the Library of Congress, Washington, D.C. and the Botanical Museum of Harvard University, Cambridge, Mass.

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*Ma-sha-kvé* in Kamsá or Koche, Sibundoy, Colombia (Schultes, 1949, 45).

*Naranjilla* in Ecuador, southernmost Colombia.

The few authors who have been concerned with this fruit agree that the word *lulo* is of Keshwa origin. Some linguists attribute it to the Quitoan or northernmost form of *ruru*, meaning "egg," "fruit" (Lira, 1945, 557; Toscano Mateus, 1953, 93). The earliest known Keshwa-Spanish vocabulary states of *llullu*: "unripe thing: soft bud of tree or anything similar" (Domingo de Santo Tomás, 1560, 147). Another Keshwa vocabulary of the beginning of the 17th Century reports: "*llullu-ruru*, everything that is tender before becoming hard"; and "*llullu-ruru*=tender, milky fruit" (González Holguín, 1608, 213; González Holguín, 1952 (ed. fascim.)). The first reported name which was applied to a solanaceous plant with a description corresponding reasonably to *Solanum* aff. *quitoense* Lam. is *puscolulo*, derived, as suspected by Jiménez de la Espada (see below), from *ppochcco-ruru*: "sour or acid fruit." González Holguín, in fact, says: "*pochcco*=yeast or thing acid or sour" (González Holguín, 1608, 295). Theoretically, it could also be accepted that *puscolulo* means "mucilaginous fruit," from "*puçoco*= "foam or slaver" (Domingo de Santo Tomás, 1560, 162 v.).

While we admit that *lulo* is of Keshwa origin, it is not clear how the term *pusco* has disappeared from *puscolulo*, whereas the names of several other fruits have kept it: e.g., *asna-lulo* and *chaqui-lulo*, quoted by some colonial sources for fruits from the highlands of the Province of Pasto; and *chonta-ruro*, a name known since the end of the 16th Century (Patiño, 1958, AI, XVIII, 177-204; 299-332).

Since *Solanum quitoense* is indigenous to the equinoctial region, one may justifiably assume that the name

*lulo* belonged to a local language. In the Kolorado language, formerly spoken on the coast and western Andean slope of Ecuador, the root *lu* refers to "red" and "yellow" and, as a natural extension, "ripeness" (Jijón y Caamaño, 1941, II, 249). The repetition *lulo* should indicate, as stated by Buchwald, "red, red" (ibid., 250). There is a river in that same region, the Río Lulo, a tributary of the Palenque (Wolf, 1892, 138).

In Kamsá and its filial tongue Koayker, the particle *sha* (*thsa*, *za*, *scha*, *cha*) is equivalent to "thing good, admirable" and serves to classify the fleshy objects (Jijón y Caamaño, 1940, I, 102–103, 105, 107, 109, 117–120, 122–124; 157, 160, 191–192). In Kamsá, *be* means "round" (ibid., 118, 122).

The origin of the word *naranjilla* is established in the references quoted below. In view of the lack of botanical collections, some of the data on several so-called varieties of *naranjilla* (Gattoni, 1935, 7) may refer perhaps to different species. A few years ago, Schultes and Cuatrecasas described a variety of *Solanum quitoense*<sup>3</sup> occurring north of the equator and characterized by the presence of spines on the leaves.

In 1652, the naturalist Bernabé Cobo, perhaps making use of information sent to him by Jesuit correspondents, described under different regional names one or more species of *Solanum* with edible fruits, native of the regions of Popayán and Quito. Living in Lima and Mexico, Padre Cobo was never able to visit these two regions. The descriptions are alike, except in a few details which are easily detected by reading the references in double column as follows:

<sup>3</sup> *Solanum quitoense* Lamarck var. **septentrionale** Schultes & Cuatrecasas in Bot. Mus. Leaflet. Harvard Univ. 16 (1953) 100.

Chapter XVI  
ON PUSCOLULO

In the Province of Popayán, there grows a bush called *puscolulo*,<sup>4</sup> which is like hell's-little-fig in size, leaf and shape. It bears a fruit very similar to an apple in size, colour and rind; but it is covered all over with tiny spines (hairs) which easily rub off. The flesh is between green and yellow, watery, and full of little seeds like those of the pepper; they are eaten together with the flesh. The flavor tends more to sour than to sweet, and eating too many [fruits] sets the teeth on edge" (Cobo, 1890, I, 461; Cobo, 1956, I, 209-210).

Chapter XXIII  
ON THE NARANJILLAS

In the Province of Quito, there grows a bush more or less as tall as a man; its leaf is like that of hell's-little-fig, a little larger and spiny along the veins. The fruit which it bears is called naranjillas ("little oranges"), because of a resemblance to oranges. It is of the size of a medium-sized peach, round, orange-coloured; the rind and core are like those of the tomato; the inside is of a watery, bittersweet consistency; it has many little seeds, like the tomato, and of good taste" (Cobo, 1890, I, 470; Cobo, 1956, I, 213).

Both descriptions agree that the leaves are sinuate, since they are compared with those of "hell's-little-fig," the colonial Spanish name for *Ricinus communis* L. But, while the fruit of puscolulo is said to be covered with spine-like hairs, naranjilla is described as having a smooth fruit like the tomato. Another difference is the presence of spines on the veins of the leaves of naranjilla, a character not mentioned for puscolulo.

From the references given above, it appears that, by the middle of the 17th Century, there were known in Popayán and Quito solanaceous plants with edible fruits which differed both in names and morphological characteristics. Apparently, Cobo did not notice (or at least he fails to mention it) the affinities of the two plants which he described. The same observation can be made in the case of other plants from regions far away from his resi-

<sup>4</sup> Perhaps this must be read *ppochcco*, "fruit sour or acid," in Quichua, which is, I believe, the "naranjita de Quito." (Note by the editor Marcos Jiménez de la Espada.)

dence, and which he described on the basis of reports from other persons.

The Ecuadorian Jesuit, Juan de Velasco, describing the *naranjilla* in 1789, adds nothing new or notable but reports that the leaf is "broad, rough and somewhat spinous" (Velasco, 1927, I, 73-74).

The last two records refer to the interandean equinocial area from Loja to Popayán. The next two concern the Amazon slope.

The Jesuit, Jean Magnin (1740), includes naranjas and naranjillas without explanation amongst the cultivated fruits of the Province of Maynas (Magnin, 1940, 156).

During the decade of 1760, the Majorcan missionary, Fr. Juan de Santa Gertrudis Serra, lived and worked in the upper part of the Putumayo and Caquetá Rivers. Speaking of the former mission at Santa Rosa de Caquetá, he said: "There is in Santa Rosa an orchard with its fence; inside it, the third part is planted to naranjillas. This is a bush of a man's height, with big leaves, similar to those of egg-plant. But above the leaves have spines, thick and long as a half pin, 15 to 20 on every leaf. It bears fruit at the middle of the plant. Perhaps its resemblance to the orange is why it is called *naranjillas*. They are half the size of oranges and covered with tiny, very thin and pointed spines, so thickly crowded that the fruit looks like velvet. When the fruits ripen, the spines decay, and the naranjilla assumes a very deep scarlet color. The rind is very thin and inside there is no pip. It is like an orange without sections, being entirely a pulp. The color is between green and orange-colored, and the taste bitter-sweet, very appetitious. The fruit is very fresh to the body, and diluted some of them in water with sugar, makes a refreshing drink of which I may say that it is the most delicious that I have tasted in the world" (Serra, 1956, I, 148-149).<sup>5</sup>

The data of the middle of the 17th Century confine the range of puscolulo and naranjilla to the Provinces of Popayán and Quito. Those of the middle of the 18th Century quoted above are restricted to naranjilla; they place its area of cultivation to the east, yet it still falls within the equatorial belt. But the references to be considered below indicate that cultivated *Solanum quitoense* (or some other species mistaken for it) had migrated from the original focus, both to the north and to the south.

In the year 1701, Fr. Alonso de Zamora, writing on the plants of the New Kingdom of Grenada, stated: "There are growing in the hot parts of the country some trees of the stature of lemon trees, called *lulos*. These give a fruit like small oranges and with the same color as oranges; their skin is very thin, and they are very agreeably scented, moderately sour and with numerous seeds inside a soft pulp. This fruit, diluted, is, according to Doctor Lugo, very wise physician who had been in this New Kingdom, a healthy cordial for those sick with typhus (*tabardillo*) and other fevers. Sauces made with this fruit are the most seasoned that the culinary art has discovered" (Zamora, 1701, 41; Zamora, 1930, 40). The Gongorist style of that time did not contribute towards accuracy of description. In this case, the name *lulo* seems to have been borrowed from the western part of New Grenada, but the quotation might equally well be attributed to *Solanum Topiro* (see below) or other species, because it refers the plant to the "hot parts of the country." Some records indicate that in the Guaviare River basin there is a lulo with a fruit larger than that of the

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<sup>5</sup> Since *Solanum quitoense* does not normally grow well in hot areas, and since the plant in the foregoing description was said to have spiny leaves, it is possible that this *naranjilla* is referable to a new species, *Solanum georgicum*, described from the same region by Schultes.

lulo from western Colombia.<sup>6</sup> Only field research and the assembling of enough botanical samples will settle the question of what species of *Solanum* this may be.

In a descriptive report on the District of Vijes in the jurisdiction of Cali, made by José Lorenzo de Reina on July 20th, 1808, we find a statement that the few inhabitants of Ciénaga Larga, in the basin of the Bitaco River, tributary of the Dagua, a temperate region, grew plantains, maize, some arracachas and lulos (Villaquirán, 1959, 61-66: 232). These lulos are undoubtedly *Solanum quitoense*, most probably the variety *septentrionale*. By the middle of the 18th Century, *Solanum quitoense* had spread to the south. Amongst the plants which he had collected in Lima and vicinity and in the neighboring valleys in the first half of 1778, the botanist Hipólito Ruíz includes: “*Solanum angulosum*, common name *narangitas de Quito*, ‘little oranges from Quito,’ because they come from that province and because the fruit has the shape and color of a small orange. Women esteem this fruit for its scent and for the particular taste that they give to the maté beverage, the custom being to drop it in some of the juice. They are also accustomed to include these fruits in the mixed bouquets of flowers for the purpose of beautifying the bouquet and of making the mixture more pleasant with its fragrance” (Ruíz, 1952, I, 30). In another place, Ruíz wrote that he sent to Spain seeds of *Solanum peruvianum* or naranjitas de Quito with the first parcel of plants and seeds mailed in 1780. The cases with the living plants were lost (ibid., 434, 443).

In the National Period (the previous data are from Colonial documents), Edouard André saw naranjilla in the Pasto market in 1876 and identified it as *Solanum galeatum*. Although he did not describe the plant, he praised

<sup>6</sup> Verbal report from the agronomist Dr. Camilo Castro, at present Governor of the Department of Meta.

the fruit (André, 1879, 20. sem. XXXVIII, 322). Cárdenas supports the opinion that lulo is a species on the way to domestication, of recent status as a cultigen; and, in some ways, still wild (Cárdenas, 1950, 17-18).

In his work on the Keshwa terms used in the Cauca Valley, Leonardo Tascón offers the following references about lulo; they are included here because they establish definitively the presence in that Colombian area of two different, well known and clearly distinguished forms: “*Lulo*. (from *llullu*, soft, tender). Fruit round, flattened, orange-colored, of sour taste, employed for preparing very agreeable refreshing beverages. It is borne by a solanaceous plant with large, purple leaves, spinous the same as the stem, and with white flowers in a bunch; called in botany *Solanum esculentum*. The *dog's lulo*, the rind of which serves to make sweets, is the fruit of another species that differs from the former in the green colour of its leaves” (Tascón, 1934?, 101). The first of these two concepts of *Solanum* would appear to be *S. quitoense* var. *septentrionale*.

The members of the Russian botanical expedition to Colombia in 1925 found lulos in Manizales (Bukasov, 1930, 488).

In the middle of the 19th Century, the physician-geographer Villavicencio remarked upon the excellence of naranjillos grown at Baeza in eastern Ecuador (Villavicencio, 1858, 403).

Under the abbreviated name of *naranji*, there is a cultivated fruit in Ecuador amongst the Jívaro and Canelo Indians (Karsten, 1935, 123, 568; Sarmiento, 1958, 178). Any doubt that the last two references apply to *Solanum Topiro* is dispelled below.

***Solanum Topiro*** Humboldt & Bonpland ex Dunal  
Sol. gen. aff. syn. (1816) 10.



VERNACULAR NAMES:

*Topiro*, *tupiro*, *tupiru* (Orinoco-Río Negro basin).

*Bo-po* amongst the Camaratas Indians, Amazonas Territory, Venezuela (Schultes, 1958, 242).

*Betáka*, in Kubeo, Vaupés River, Colombia; *detwá* in Tatuya, Apaporis River, Colombia (ibid., loc. cit.).

As suggested above, the lulo mentioned by Zamora in 1701 may refer to *topiro*, from some of the western tributaries of the Orinoco River; this region, if not often visited at that time, at least was not unknown through the activity of missionaries of different religious orders in touch with Bogotá.<sup>7</sup>

The Jesuits from the eastern plains of New Grenada mentioned sundry native fruits that are probably *Solanum Topiro* or related species. Gumilla, using a name perhaps already spread far from its place of origin (as in the case of lulo), lists amongst the wild fruits date palms (in a generic sense, meaning "palms") and "naranjillas, of a bittersweet taste and very wholesome; they are of the same color, although something smaller, than ordinary oranges" (Gumilla, 1841, 197; Gumilla, 1944, I, 266; Gumilla, 1955, 174).

During his second survey of the Padamu River, an affluent of the upper Orinoco, in March and April of the year 1760, Apolinar Díez de la Fuente of the staff of the Commission of Boundaries between the Spanish and Portuguese colonies organized a few years before, traveling from Guaharibos Falls as far as the Casiquiare-Orinoco confluence, found a cultivated field (*conuco*), started the year before, in which maize, beans and *tupiros* were almost mature (Ramos Pérez, 1946, 407). This

<sup>7</sup> Cuatrecasas collected *Solanum Topiro* (No. 7558) along the Guayabero River, 240 m. altitude, November 8, 1939. (Personal communication). The Guayabero and Ariari Rivers are the principal sources of the Guariare. (See footnote 6.)

field had been made by the Indians in three days (Altolaguirre y Duvale, 1908, 310), near the fortress of Buena Guardia, of which, one hundred years later, not a remnant was to be seen (Michelena y Rojas, 1867, 162, 355).

On their trip to the upper Orinoco in 1800, Humboldt and Bonpland found tupiro at San Fernando of Atabapo, the type locality of the material on which the first description of the species was based. Humboldt included *Solanum Topiro* amongst the common plants in the area between the Javitá and Pimichín Rivers (Humboldt, 1942, IV, 178). Making use, probably, of the works of those two authors, Lisandro Alvarado drew up the following description: “*Tupiro. Solanum Topiro*. Shrub with herbaceous, tomentose stem; leaves subovate, acute, sinuate-angulated, unequal at the base, thickly haired above, lightly grey-tomentose below; flowers extra-axillary, aggregate; berries ovate, tetralocular, edible. Blossoming in May. It is called also *tópiro*” (Alvarado, 1953, 345). This form, accented on the antepenult, is given by Tavera Acosta (1954, 218).

In a recent paper, Schultes attributes to *Solanum Topiro* the *cocona* from eastern Peru and mentioned by Fennel and other authors (Schultes, 1958, 231–232; Fennel, 1948, 181–182). Ricardo Latcham, listing several fruit-bearing species used by Amazonian tribes, mentioned—without quoting sources—the “*cocona*, that bears a berry similar to an orange” (Latcham, 1936, 65–66, 72).

The following statement appears on the naranjilla of eastern Ecuador in a recent work: “There are three kinds: the two acid (known in the east under the names of *huevo de tigre* (“puma testicle”) and *cocona*, and the other one common with us [in the highlands], bitter-sweet and very agreeable, especially for beverages, preserves, ices, sherbets, not to mention its use as an edible

fruit, both alone and with sugar. It is so aromatic that just a single fruit is enough to fill a room with pleasant fragrance. The cocona is also a special insecticide, used by the eastern Indians against head-lice. They also eat the fruit roasted'' (Sarmiento, 1958, 178).

In the market of Iquitos, I found for sale in 1951, under the name of *cocona*, and I have eaten there, a berry larger than that of *Solanum quitoense*, with a rind of dark purple or murrey, not orange-colored or yellow. It is possible that, in eastern Peru, the term *cocona* is applied to several species-concepts of *Solanum*.

Along with other fruits, cocona is grown by the Karneiris Indians of the upper Madre de Dios River in eastern Peru (Fejos, 1940-1942, 24).

By October 1948, seeds of cocona were introduced from the United States to the Tulio Ospina Farm in Medellín, Colombia. According to official reports, the shrub has but few spines, and the fruits are orange-colored (Granja Tulio Ospina; letter August 1956; letter 329, October 5, 1961).

***Solanum muricatum*** Aiton Hort. Kew., ed. 1, 1 (1789) 250.

*Solanum muricatum* Aiton var. *popayanum* Bitt. (Bukasov, 1930, 530).

VERNACULAR NAMES:

*Cachon*, in Keshwa (Domingo de Santo Tomás, 1560, 112 v. ; Domingo de Santo Tomás, 1951, 242; González Holguín, 1608, 258).

*Cachuma*, in Aymara (Bertonio, 1612, 32).

*Pepino*, *pepino dulce*.

The name *pepino* was given to the fruit by the Spaniards who saw in it some resemblance to the cucurbitaceous cucumber (*Cucumis sativus* L.), which they had introduced into the New World.

Referring to the irrigated Peruvian coastal plains, Cieza de León (1553), described the so-called pepinos as one of the most remarkable of American fruits (Cieza, 1924, 209). While recounting the last campaigns of Huayna Cápac across the northernmost coast of Peru, the same author gives this anecdotal passage: "And it is said about him, that when he was travelling along the beautiful plain of Chayanta, near Chimó, where the city of Trujillo is now built, an old Indian was at work in an agricultural field. Having heard that the king was passing nearby, he took three or four pepinos and, with earth and all, presented them to him, saying: "*Ancha Atunapu micucampa*" ("Great sir, eat thou this"). In the presence of his knights and others, he took the *pepinos* and, tasting one of them, said to gratify the old man: "*Xuylluy, ancha mizqui cay*" ("This is indeed very sweet"). From this act, everybody derived very, very great satisfaction" (Cieza, 1880, 250–251). The expeditions of Huayna Cápac in the Chimú-Mochica region were made after the death of his father, Tupac Inca Yupanqui, towards 1481 (Vázquez de Espinosa, 1948, 541–544). The same Cieza de León, speaking of the Chincha Valley, lauds the beauty of the orchards there "and saw what delightful and fragrant pepinos [there are], not like those from Spain, although in form somewhat alike, for those from this region [of Peru] are yellow when peeled, and so appetizing that, in truth, a man needs to eat many before he loses his taste for them" (Cieza, 1924, 229).

Juan de Salinas Loyola, in his description of Loja, Ecuador, written in Spain in 1571–1572, spoke of these fruits, saying that there is "a native kind of cucumber there." In 1572, in his excellent report on Quito, written likewise in Spain, he is more explicit: "There is another kind of cucumber, which grow like those of

Spain; it is smooth, white, with some murrey veins; the Indians eat it, and it is believed that it is more wholesome than ours, and not so cool." Sancho Páz Ponce de León in his report on Otavalo (1582) claimed that there was the Spanish cucumber and also one "from these parts" in the vicinity of Pizque, along the Guailabamba River, just as in other places near the Mira or Coangue River (J. de la Espada, 1897, III, 203, 73, 113). Even at the present time, it is the daily custom to sell excellent pepinos to the passengers stopping for a while at the village El Olivar to the north of the city of Ibarra, Imbabura Province, on the road between Quito and Tulcán and Pasto. In the second quarter of the 17th Century, Vázquez de Espinosa, listing the productions of Quito, stated that there are "cucumbers very different and better than ours" (Vázquez de Espinosa, 1942, 363; Vázquez de Espinosa, 1948, 340).

We do not have such early reports for New Grenada. We cannot know whether or not the growing of this species, carried on now as far north as Popayán and even in Antioquia and on the Bogotá plateau, dates from pre-hispanic times or only since the Conquest. But if the cachon were cultivated in the upper Mira River basin, the southernmost boundary of expansion of the Pastos group, it may be assumed that the cultivation of *Solanum muricatum* had spread northward at least as far as the basin of the river called now Guáitara. Fr. Alonso de Zamora said that at the end of the 17th Century there was in the New Kingdom of Grenada, an abundance of "pepinos" of several kinds, including the sweet one (Zamora, 1701, 45; Zamora, 1930, 43).

In 1590, Acosta reported: "Neither are the so-called pepinos [*Solanum muricatum*] trees, but vegetables that are annual in habit. This name was given to them because some of them, even most of them, are long and

round like the true cucumber; but in everything else they differ sharply, for the color is not green but murrey, yellow or white; they are not spiny or rough, but quite smooth. Their taste is very unlike and very superior, for when they are wholly ripe they have a very agreeable bitter-sweet flavour, but not so strong as that of the pineapple. They are succulent, fresh and easy to digest. They refresh one well during the hot weather; the skin, which is tender, is peeled off; all the rest is pulp. They grow in warm climates and need irrigation, Although because of their shape they are called *pepinos*, many of them are wholly round, and there are others of different shapes; so even in their figure they are not really like true cucumbers. This plant I do not remember having seen in New Spain [Mexico] nor on the islands [Caribbean], but only on the plains of Peru” (Acosta, 1940, 275–276; Acosta, 1954, 113).

Amongst the common fruits of the plains of Trujillo, Peru, Vázquez de Espinosa included the pepino, adding: “[The Indian village of Mansiche is a quarter league from the city, with delicious vegetables and fruit, particularly Peruvian cucumbers; these are of many kinds and] varieties; those from this village [have the reputation all over the Kingdom of] being the best in Peru [since they are among the best and most delicious]. The plant resembles a pepper plant, but the leaf is smaller and more elaborate [in its color and the [—] of its shape] is like a tomato leaf. [The cucumber] is [there are] of many sorts—purple [likewise there are] yellow and white (Marg. : and of other colors), and they are very smooth. They must be ripe when eaten for when green [they are worth nothing] they are no good; they come long, round and in [many] other shapes, small and large. They taste very good when fully ripe; they are very juicy and refreshing, and are good for the kidneys and digestion; you peel off the skin,

which is very soft and thin, and then eat it all. This fruit [I never saw in all of New Spain and Honduras, or in the islands; it] only grows in Peru." (Vázquez de Espinosa, 1942, 390, 393-394; Vázquez de Espinosa, 1948, 365, 367, 368).

Cobo described the pepino with praiseworthy exactness. He noted varieties which were murrey, yellow, striped white and others, but states that the commonest is murrey striped with bands of different color. "The best grew on the valleys along the coast of Peru; those from the valleys of Trujillo, Ica and Chincha are specially famous. They require hot and sandy soil; although they have been taken to New Spain [Mexico], they do not yield as well there as here, since the climate is not so favorable. At the Atrisco Valley, I saw them in the Carmen Convent; I tried them myself and found them tasteless, without the sweetness of those in this Kingdom. The juice, mixed with red ointment, is valuable for 'heat of the kidneys.' In the Quechua language it is called *Cachum* and in Aymara, *Cachuma*" (Cobo, 1891, II, 381-383; Cobo, 1956, I, 177). In another place, Cobo asserted that, while it grows very well in America, the Spanish cucumber (*Cucumis*) is used merely as a vegetable, whereas the native "cucumber" or pepino (*Solanum*) is preferred as an edible fruit (Cobo, 1891, II, 436-437; Cobo, 1956, I, 418).

Miguel Feyjoo, in his description of the Province of Trujillo, Peru, about the middle of the 18th Century, included the pepino amongst the cultivated native fruits (Feyjoo, 1763, 13).

Amongst the plants collected by the botanist Hipólito Ruíz in Lima and its vicinity and in the Andean valleys, in the first half of the year 1778, he listed pepino as *Solanum variegatum*. The fruits, he reported, were very commonly consumed in Peru, and he erroneously

attributed to them the characteristic of producing, if eaten in excess, tertian fevers and dysentery with tenesmus (Ruíz, 1952, I, 29). Describing the products of Lurín, near Lima, he mentioned again the "native cucumber." He wrote that this shrub blossoms profusely and that the fruits are usually yellowish, whitish or spotted with murrey, violet and red; he repeats the statement about the presumed tendency of the fruit to produce the diseases mentioned above, adding: "this plant is propagated by the stems, because by the seeds it takes two years to produce fruit, after having been transplanted from the nursery in which they were sown" (Ruíz, 1952, I, 53-54).

Latcham reported that *Solanum muricatum* is cultivated in the northern part of Chile; but he assumed that, because of the absence of an Araucanian name, the species had been introduced by the Incas (Latcham, 1936, 214-216).



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